REMARKS

In the Office Action, the Examiner rejected Claims 1-9, 11-20 and 22-33, which were all of the then pending claims, under 35 U.S.C. 102 as being fully anticipated by PCT patent application no. 92/15651 (Moon).

The rejection of the claims is respectfully traversed. Changes are being made to Claims 11 and 33 to improve the form and readability of the claims. New independent Claim 34 is being added to define the invention in an alternative way, and Claim 35, which is dependent from Claim 34, is being added to describe preferred features of the invention. Claims 13 and 15 are being cancelled to reduce the number of issues in this case.

The present invention provides a UV curable tape that includes a material that starts to emit light, or light of a different color, when the tape become substantially fully cured. This feature is very useful because it makes it easy to ensure that, when the tape is used, it is at least substantially fully cured before being removed. In particular, this is achieved by simply waiting until the appropriate light or color change occurs, indicating that the tape is substantially fully cured, before removing the tape.

Waiting to remove the tape until it is substantially fully cured is, in turn, helpful because this reduces, or substantially eliminates, the amount of tape residue left behind when the tape is removed.

In the specific example discussed in the specification, when the tape is used with a semiconductor wafer, the tape can be removed without leaving any significant residue. This reduces the cost of the semiconductor fabrication process, and reduces the length of time needed for that process.

Moon describes a process in which light is used to polymerize a material. This material may include fillers, tackifiers, dyes, pigments and viscosity adjusting agents.

After carefully studying the Office Action, it appears that there are two main issues: (1) should the Examiner take into consideration the feature that the tape includes material which starts to emit light of a first type when the tape becomes substantially cured; and (2) if so, does Moon disclose this feature.

The Examiner argues that this feature should not be taken into account because it is a product-by-process limitation, and, even if it is considered, Moon discloses this feature.

Applicant respectfully disagrees with both of the Examiner's contentions.

With respect to the first of these issues, it may be helpful to note that Applicants are not claiming a cured tape, but instead are claiming a curable tape. Moreover, Applicants are not claiming any process for forming a tape, curable or cured. Instead, Applicants are claiming a curable tape that is provided with a feature that functions in a specified manner –material which starts to emit optical light of a first type – under specified conditions - when the tape becomes substantially cured. This claim limitation is no more of a product-by-process limitation than any other claim limitation that describes a specific feature that functions in a specified manner under specified conditions.

Claims 1 and 11, and new Claim 34, set forth specific structural elements and describe how those elements function together to achieve the desired result. In particular, Claim 1, which is directed to a UV energy curable tape, describes, among other features, a support layer, a UV energy curable oligomer, and a material that starts to emit optical light of a first type when the tape becomes substantially fully cured.

Claim 11 is also directed to a UV energy curable tape and positively sets forth a support layer including a material which starts to emit optical light of a first type when said tape becomes substantially fully cured. New Claim 34 describes the feature that a given amount of UV energy is needed to substantially fully cure the tape, and that this same defined amount of UV energy causes a given material in the tape to begin to emit light of a given type, whereby that given material provides a visible indication that the tape is substantially fully cured.

These are positive, structural features, not product-by-process limitations, that describe how the elements of the invention work and how the inventive results are achieved. Thus, the feature that the material starts to emit light of a first type when the tape becomes substantially fully cured, should be taken into account when determining the patentability of the claims.

Furthermore, it is this feature that patentably distinguishes the claims over the prior art.

What is missing from Moon is the matching of the light emitting material with the degree of curing of the tape.

Moon simply does not teach the principle of providing the tape with any light emitting material designed to start emitting light when the tape becomes substantially fully cured.

On this issue, the Examiner cites Moon, page 7, lines 18-21, which discloses that the tape may be provided with several materials including a dye. The present invention is much more than simply providing the tape with, for example, a dye. Instead, what is important is that the light emitting material is designed so that it functions in a particular way under specific conditions – that is, the material starts to emit light of a first type when the tape becomes substantially cured. The use of any dye for this purpose under these conditions is not disclosed in or suggested by Moon.

Also, on this point, the Examiner cites a portion of the present application and argues that Moon's description of UV dyes/pigments used for the same purpose under similar circumstances will produce the present invention.

Applicants respectfully submit, though, that Moon does not disclose the use of a dye for the same purpose for which they are used in the present invention – to provide a visual indication that the tape has become substantially fully cured. This teaching is simply absent from Moon.

The other references of record have been reviewed, and whether these other references are considered individually or in combination, also disclose the above-discussed principal of the present invention.

In light of the above-discussed differences between Claims 1, 11 and 34 and the prior art, and because of the advantages associated with those differences, it cannot be said that any of Claims 1, 11 or 34 is anticipated by or is obvious in view of that prior art. Thus, these Claims 1, 11 and 34 patentably distinguish over the prior art and are allowable. Claims 2-9 and 30-33 are dependent from, and are allowable with, Claim 1. Similarly, Claims 12, 14 and 16-19 are dependent from Claim 11 and are allowable therewith; and Claim 35 is dependent from, and is allowable with, Claim 34.

For the reasons advanced above, the Examiner is asked to reconsider and to withdraw the rejection of Claims 1-9, 11, 12, 14, 16-19, and 30-33, and to allow these claims and new Claims 34 and 35. If the Examiner believes that a telephone conference with Applicants' Attorneys would be advantageous to the disposition of this case, the Examiner is asked to telephone the undersigned.

Respectfully submitted,

John S. Sensny

John S. Sensny
Registration No. 28,757
Attorney for Applicants

SCULLY, SCOTT, MURPHY & PRESSER
400 Garden City Plaza – Suite 300
Garden City, New York 11530
(516) 742-4343

JSS:jy